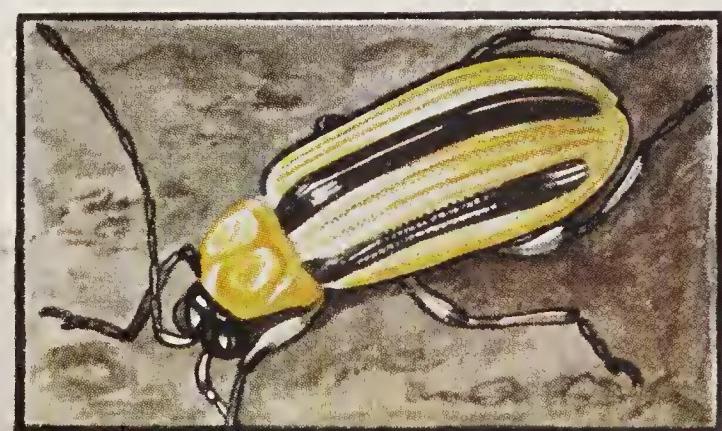


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En 838

X STRIPED CUCUMBER BEETLE.



a

MARY RENISON

a, Adult beetle; b, underground stem of cucumber seedling cut open to show larva (grub, or "worm") feeding within; c, small cucumber plants showing characteristic feeding by adult beetles on leaves and stems. (a about 8 times natural size; b about twice natural size; c about three-fourths natural size.)

(See other side for control measures)

STRIPED CUCUMBER BEETLE

(*Acalymma vittata* (F.))

The striped cucumber beetle is one of the most familiar insects to gardeners in the Eastern and Central States. It is also one of the most troublesome. The beetles invade cucumber, squash, and melon plantings almost overnight, and often destroy tiny seedlings before they push through the soil. They girdle stems of older plants, and eat portions of the leaves. They also transmit bacterial wilt and mosaic disease from plant to plant. The grubs, or larvae, live on the roots and reduce the vitality of the plants.

The adult beetles spend the winter in uncultivated areas, protected by plant debris. In the spring they become active, feeding on some wild plants about the time apple trees are in bloom. As soon as the first melon, cucumber, squash, or pumpkin seedlings push through the soil, the beetles attack them. Here they feed first on the stems and cotyledons, oftentimes killing the plants. There may be an influx of beetles into the field for several weeks. As the plants grow, the beetles collect under the vines and feed on the lower surfaces of the plants. Females crawl into cracks in the soil and deposit eggs. The young larvae, or grubs, that hatch from these eggs feed on the plant roots for about a month, pupate in the soil, and emerge as adults of the next generation.

Control

Several insecticides are effective, however, provided they reach the beetles in time. Derris or cube and cryolite are recommended for this purpose. They may be applied either as dusts or as sprays to prevent plants from becoming infected by wilt.

The derris or cube dust should contain 0.75 to 1 percent of rotenone, and the cryolite dust 40 to 50 percent of sodium fluoaluminate. They are usually obtainable at these strengths from local dealers.

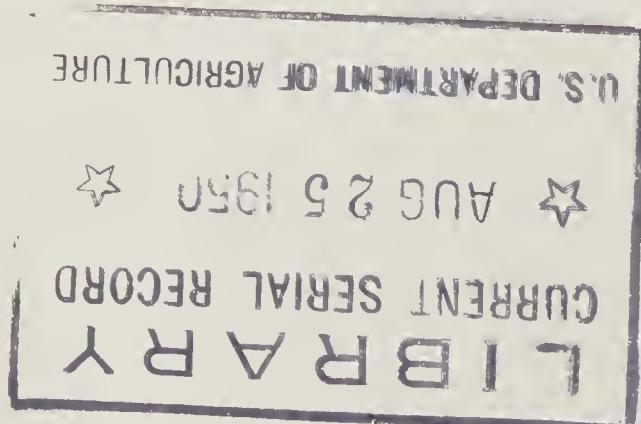
Sprays can be prepared from undiluted powdered derris or cube, which contains from 3 to 5 percent of rotenone, or from a rotenone-containing extract. Use enough of the powder to give a spray containing 0.02 percent of rotenone. This requires 5½ pounds of a powder containing 3 percent of rotenone, or 4 pounds of one containing 4 percent, in 100 gallons of water. Use the rotenone-containing extract at the strength recommended by the manufacturer. To prepare a cryolite spray use 5 pounds of cryolite containing 90 percent of sodium fluoaluminate or its equivalent in 100 gallons of water.

Apply the dusts at 15 to 30 pounds per acre and the sprays at 75 to 100 gallons per acre, the rate depending on the size of the plants. To be effective the applications must be timely, thorough, and frequent. Keep in mind the following points:

- (1) Protect the young seedlings.
- (2) Apply the dust or spray to the plants as soon as the beetles appear.
- (3) Apply a light, even coating over the entire plant, especially at the point where the stems emerge from the soil.
- (4) Repeat the applications after rains and as often as necessary to keep the plants free from the beetles.

CAUTION.—Insecticides are poisonous and should be handled with care.

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